

Brook Sixth Form & Academy Engineering Curriculum Programme Year 11

September 2024 – July 2025

Week Plan (4 Periods per Week; 1 Double, 2 Singles)	Theme / topic / unit & link to specification (where appropriate)	Whole school priority (E.g. reading, literacy, passion for subject)	Skills being developed (E.g. reading, writing, measuring and marking out, drawing)	Knowledge being introduced, developed and / or consolidated Learning Objective/s	Understanding		Implementation (Includes explanation of why you are teaching the way you are)	Differentiation (e.g. through curriculum intent)	Aspects of the wider curriculum		Personal Development
					Application of skills	Application of knowledge			Arts, music, culture, RS history, geography, MFL	Cultural Capital ¹	
Autumn Term											
AQA Exam-board Project Task, Analysis, Research & Student Intent											
Week 1	Assignment analysis	Reading Reflection	Planning & preparing	Design processing LO/s: Understanding the AQA task & expectations	Brainstorming	Identifying tasks to do	Exploring possibilities	Group & 1-1 support	Historical reasons behind assignment	Research & reflection	
Week 2	Context Brief Problems	Reading Writing	Communicate project intent	How to write a brief? LO/s: Student writes own project intention / brief	English writing	Big Write skills	Clarity of project intent	Teacher led examples	Cultural meeting other's needs	Communicate intentions	
Week 3	Research analyse ideas	Reading recording	Internet Book research	Existing solutions LO/s: Finding & recording existing similar products	Analysis	Find create inspiration	Abstract pupil thinking	Individual & 1-1 support	Cultural, historical solutions products	Reflection Creativity	
Design & Development of an idea into a Problem Solving Solution											
Week 4	Designing solutions	Reading Writing	Drawing & communicate	Engineered solutions LO/s: Producing design solutions to AQA problem	Design Communicate	Sketching 2D & 3D	Expressing ideas from research	Individual & 1-1 support	Art	Problem solving	

¹ Cultural capital: "It is the essential knowledge that pupils need to be educated citizens, introducing them to the best that has been thought and said and helping to engender an appreciation of human creativity and achievement."

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Week 5	Modelling Testing Trials	Reflection Measuring	Measuring marking out	Modelling techniques LO/s: Student produce card model of idea	Design model solutions	Working models	Practical solutions	1-1 support Classwork	Art	Perseverance
Week 6	Developing an idea	Writing Calculations	Planning finalising	Possible manufacture LO/s: Student modifying idea	Planning for manufacture	Sequences Processes	Written NEA evidence	1-1 support Classwork	Historical means of engineering plans	Sequential planning
Modelling & Planning for Manufacture										
Week 7	Producing drawings	Reading Analysing	CAD Eng. drawings	2D & 3D CAD drawings LO/s: Producing engineering drawings.	Drawing techniques	CAD Modelling	NEA planning evidence	Individual & 1-1 support	Art, History of drawings	Portray concepts
Week 8	Planning for Manufacture Flow Charts	Reading Writing	Planning Organising	Identifying materials etc. LO/s: Create flow chart. Prepare materials	Ordering Preparing	Calculating Setting up	Sustainability Efficiency Access higher marks	Individual & 1-1 support	History of industrial practices, recycling.	Being safe & responsible
October ½ Term										
Manufacturing (Team Teaching with Technician)										
Week 9	Cutting materials	Reading Measuring	Marking out Shaping	Using right tools for job LO/s: Measuring & marking out	Working safely	Use of PPE Safe work	Safety comes first.	Individual & 1-1 support	Modern versus traditional tools skills	Being safe & accountable
Week 10	Shaping & Forming	Passion Measuring	Accuracy Checking	Quality control LO/s: Making	Precision tool use, formers CAD/CAM	Safe use of tooling & machines	NEA Evidence Precision	Individual & 1-1 support	Imperial metric measuring	Checking & correcting
Week 11	Drilling Making	Reading Measuring	Marking out Measuring	Safe working practises LO/s: All making	Marking out holes, drilling	Correct procedures	Workshop essential	Group & 1-1 support	N/A	Working on own
Week 12	Making & modifications	Reading Measuring	Adjusting errors / adapt	Resolving problems LO/s: All making	Finding solutions	Problem solving	Workshop essential	Individual & 1-1 support	Old & modern equipment use	Safe machine working
Week 13	Electronics	Reading Calculating	PCB Design & components	Electronic kits LO/s: E-Kits made available	PCB Design & Making	Electrical theory	To fit in product Higher marks	Individual & 1-1 support	History of electronics Advances Standards	Ingenuity

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Week 14	Mechanisms	Reading Writing	Mechanism designs	Mechanical solutions <i>LO/s: Planning & fitting mechanism</i>	Mechanical design	Levers, pivots etc.	To fit in product Higher marks	Individual & 1-1 support	European & USA drawing standards	Quality control
Xmas										
Spring Term										
Week 15	Making & assembly	Reading Measuring	Fabrication skills	Manual & CNC work <i>LO/s: advancing work</i>	Effective use of machines	Right choices	Workshop Speed accuracy	Group & 1-1 support	Art & Historical machinery	Safe machine working
Week 16	Making, & assembly, Jig Templates	Reading Measuring	Checking tools	Accuracy Quality <i>LO/s: advancing work, using jigs etc</i>	Design & production	Simple devices	Workshop Efficiency	Individual & 1-1 support	Historical use of template design	Effectiveness Efficiency
Week 17	Making & assembly	Reading Measuring	Planning Organisation	Sequencing <i>LO/s: advancing work, fitting parts</i>	Assembly planning	Assembly plan	Workshop space & plan	Individual & 1-1 support	N/A	Logical step planning
Week 18	Assembling	Reading Measuring	Component assembly	Using hand tools <i>LO/s: advancing work, fitting parts</i>	Precision work	Safe assembly	Workshop NEA evidence	Individual & 1-1 support	N/A	Perseverance Patients
Week 19	Modifying	Reading Measuring	Adapting & consolidating	Prototype Working <i>LO/s: advancing work, modifying</i>	Problem solving	Modification	Workshop NEA evidence	Individual & 1-1 support	History engineering prototyping	Persistence
Week 20	Product final development	Reading Writing	Checking Finalising	Quality control <i>LO/s: making final tweaks to fit</i>	Evaluating Consolidate	Checks on drawing	Workshop essential	Individual & 1-1 support	N/A	Persistence
Spring ½ Term										
Project Finalisation, Evaluation & Completion										
Week 21	Finishing Aesthetics	Reading Writing	Painting, varnishing etc	Finish techniques <i>LO/s: Painting, cleaning, etc.</i>	Fit & finish	Quality control	Workshop essential	Individual & 1-1 support	Historical finishing v modern processes	Quality work & outcomes
Week 22	Photoshoot	Reading Writing	Photography Final outcome	Writing to mark criteria <i>LO/s: Evidencing own work</i>	Report writing	Portfolio work	Class & CAD room work	Individual & 1-1 support	Presenting work in historical / art format	Personal achievement

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Week 23	Presenting & evaluation	Reading Writing	Assignment completion	Writing to mark criteria LO/s: Evaluating & recording outcome	Report writing	Portfolio work	Class & CAD room	Individual & 1-1 support	N/A	Reflecting Self-assessing
Week 24	Hand in NEA assignment	Reading Checking	Quality assurance	Writing to mark criteria LO/s: Handing in NEA on time	Report writing	Portfolio work	To meet AQA deadline	Individual & 1-1 support	N/A	Meeting deadlines Quality work
Exam Revision & Techniques										
Week 24	Exam revision & techniques	Reading Writing	Revision techniques	Engineering Concepts LO/s: Consolidate learning methods	How to revise & remember	Provide examples	Exam techniques	Classwork Group work 1-1 support	International student performance & achievement	Analysing questions
Week 25	Exam Revision Past Papers	Reading Writing	How to respond to exam questions	Engineering Concepts LO/s: Consolidate learning, explain & justify answers	How to answer exam questions	Provide examples	Exam techniques	Classwork Group work 1-1 support	International student performance & achievement	Responding to questions
Easter										
Summer Term										
Week 26	Past Papers & AQA Mark Schemes	Reading Writing	Responding to question styles	Exam know how LO/s: To provide detailed & correct type of answers.	Correct exam answer writing	Justifying answers with examples	AQA Exam Feedback	Classwork Group work 1-1 support	N/A	Self-marking
Week 27	Past Papers & AQA Mark Schemes	Reading Writing	Exam timing techniques	Exam success skills LO/s: Build confidence	Exam familiarity	Reproducing typical set answers	AQA Exam Feedback	Classwork Group work 1-1 support	Historical - Feedback from moderators & exam-board	Self-confidence
Week 28	Past Papers NEA Submission this week 7/5/25	Reading Analysing Writing	Applying own experience to answers	Exam success skills LO/s: To provide correct answers	Correct exam answer writing	Justifying answers & examples	Exam technique reminders	Classwork Group work 1-1 support	N/A	Learning from peers
Week 29	Past Papers & Exam conditions	Reading Analysing Writing	Exam theory into practise	Exam paper techniques LO/s: To perform under exam conditions	Correct exam answer writing	Quality answers	Exam style simulation Exam is worth 60% of the final marks!	Classwork 1-1 support	N/A	Time management

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AQA Past Paper Exam Practise (NEA Coursework Submission 7 th May & Exam 2 June 2025)										
Week 30	Past Papers & Exam conditions	Reading Writing	Exam theory into practise	Exam paper techniques LO/s: To perform under exam conditions	Correct exam answer writing	Quality answers	Exam style simulation Exam is worth 60% of the final marks!	Classwork 1-1 support	N/A	Student exam confidence
May ½ Term										
Week 31	Exam Review Exam this week 2/6/25	Reading Writing	On the day tips	Exam crib work	Exam hacks	Answer all questions	Exam technique reminders	Classwork 1-1 support	N/A	Exam experience
Week 32										
Week 33										
Week 34										
Week 35										
Week 36										
Week 37										
Summer Holidays										